1. (Previously Presented) A computer-implemented method for constructing a single vector representing a semantic abstract in a topological vector space for a semantic content of a document on a computer system, the method comprising:

storing a semantic content for the document in computer memory accessible by the computer system;

identifying a directed set of concepts as a dictionary, the directed set including a maximal element at least one concept, and at least one chain from the maximal element to every concept;

selecting a subset of the chains to form a basis for the dictionary;

identifying lexemes/lexeme phrases in the semantic content;

measuring how concretely each lexemes/lexeme phrase is represented in each chain in the basis and the dictionary;

constructing state vectors in the topological vector space for the semantic content using the measures of how concretely each lexemes/lexeme phrase is represented in each chain in the dictionary and the basis;

superpositioning the state vectors to construct the single vector; and

storing the single vector as the semantic abstract for the document.

2. (Canceled)

3. (Original) A method according to claim 1, wherein superpositioning the state vectors includes adding the state vectors using vector arithmetic.

4. (Original) A method according to claim 1, wherein superpositioning the state vectors includes weighting the state vectors.

5. (Original) A method according to claim 1 further comprising normalizing the single vector.

6. (Previously Presented) A method according to claim 1, wherein:

storing a semantic content includes:

storing the document in computer memory accessible by the computer system; and

extracting words from at least a portion of the document;

constructing state vectors includes constructing a state vector in the topological vector space for each word using the dictionary and the basis; and

the method further comprises filtering the state vectors.

7. (Previously Presented) A computer-readable medium containing a program to construct a single vector representing a semantic abstract in a topological vector space for a semantic content of a document on a computer system, the program comprising:

storing software to store a semantic content for the document in computer memory accessible by the computer system;

identification software to identify a directed set of concepts as a dictionary, the directed set including a maximal element at least one concept, and at least one chain from the maximal element to every concept;

selection software to select a subset of the chains to form a basis for the dictionary;

identification software to identify lexemes/lexeme phrases in the semantic content;

measurement software to measure how concretely each lexemes/lexeme phrase is represented in each chain in the basis and the dictionary;

construction software to construct state vectors in the topological vector space for the semantic content using the measures of how concretely each lexemes/lexeme phrase is represented in each chain in the dictionary and the basis;

superpositioning software to superposition the state vectors to construct the single vector; and

storing software to store the single vector as the semantic abstract for the document.

8. (Canceled)

9. (Original) A program according to claim 7, wherein the superpositioning software includes addition software to add the state vectors using vector arithmetic.

10. (Original) A program according to claim 7, wherein the superpositioning software includes weighting software to weigh the state vectors.

11. (Original) A program according to claim 7 further comprising normalization software to normalize the single vector.

12. (Previously Presented) A program according to claim 7, wherein:

the storing software includes:

storing software to store the document in computer memory accessible by the computer system; and

extraction software to extract words from at least a portion of the document;

the construction software includes construction software to construct a state vector in the topological vector space for each word using the dictionary and the basis; and

the program further comprises filtering software to filter the state vectors.

13. (Previously Presented) An apparatus on a computer system to construct a single vector representing a semantic abstract in a topological vector space for a semantic content of a document on a computer system, the apparatus comprising:

a semantic content stored in a memory of the computer system;

a lexeme identifier adapted to identify lexemes/lexeme phrases in the semantic content;

a state vector constructor for constructing state vectors in the topological vector space for each lexeme/lexeme phrase identified by the lexeme identifier, the state vectors measuring how concretely each lexeme/lexeme phrase identified by the lexeme identifier is represented in each chain in a basis and a dictionary, the dictionary including a directed set of concepts including a maximal element and at least one chain from the maximal element to every concept in the directed set, the basis including a subset of chains in the directed set; and

a superpositioning unit adapted to superposition the state vectors into a single vector as the semantic abstract.

14. (Original) An apparatus according to claim 13, wherein:

the state vector includes an associated threshold distance; and

the apparatus further comprises:

search means for searching the topological vector space for a second document with a second semantic abstract within the threshold distance associated with the first semantic abstract for the first document; and

retrieval means to retrieve the second document.

15. (Canceled)

16. (Original) An apparatus according to claim 13, wherein the superpositioning unit includes a vector arithmetic unit adapted to add the state vectors.

17. (Original) An apparatus according to claim 13 further comprising a normalization unit adapted to normalize the single vector.

18. (Previously Presented) An apparatus according to claim 13, wherein:
the apparatus further comprises:

a lexeme extractor adapted to extract lexemes/lexeme phrases from the semantic content; and

filtering means for filtering the state vectors; and

the state vector constructor is adapted to constructing a state vector in the topological vector space for each lexeme/lexeme phrase using the dictionary and the basis.

19. (Previously Presented) A computer-implemented method for constructing minimal vectors representing a semantic abstract in a topological vector space for a semantic content of a document on a computer system, the method comprising:

storing a semantic content for the document in computer memory accessible by the computer system;

identifying a directed set of concepts as a dictionary, the directed set including a maximal element at least one concept, and at least one chain from the maximal element to every concept;

selecting a subset of the chains to form a basis for the dictionary;

identifying lexemes/lexeme phrases in the semantic content;

measuring how concretely each lexemes/lexeme phrase is represented in each chain in the basis and the dictionary;

constructing state vectors in the topological vector space for the semantic content using the measures of how concretely each lexemes/lexeme phrase is represented in each chain in the dictionary and the basis;

locating clumps of state vectors in the topological vector space;

superpositioning the state vectors within each clump to form a single vector representing the clump;

collecting the single vectors representing each clump to form the minimal vectors; and

storing the minimal vectors as the semantic abstract for the document.

20. (Previously Presented) A computer-readable medium containing a program to construct minimal vectors representing a semantic abstract in a topological vector space for a semantic content of a document on a computer system, the program comprising:

storing software to store a semantic content for the document in computer memory accessible by the computer system;

identification software to identify a directed set of concepts as a dictionary, the directed set including a maximal element at least one concept, and at least one chain from the maximal element to every concept;

section software to select a subset of the chains to form a basis for the dictionary;

identification software to identify lexemes/lexeme phrases in the semantic content;

measurement software to measure how concretely each lexemes/lexeme phrase is represented in each chain in the basis and the dictionary;

construction software to construct state vectors in the topological vector space for the semantic content using the measures of how concretely each lexemes/lexeme phrase is represented in each chain in the dictionary and the basis;

clump location software to locate clumps of state vectors in the topological vector space;

superpositioning software to superposition the state vectors within each clump to form a single vector representing the clump;

collection software to collect the single vectors representing each clump to form the minimal vectors; and

storing software to store the minimal vectors as the semantic abstract for the document.

21. (Previously Presented) An apparatus on a computer system to construct minimal vectors representing a semantic abstract in a topological vector space for a semantic content of a document on a computer system, the apparatus comprising:

a semantic content stored in a memory of the computer system;

a state vector constructor for constructing state vectors in the topological vector space for each lexeme/lexeme phrase in the semantic content the state vectors measuring how concretely each lexeme/lexeme phrase is represented in each chain in a basis and a dictionary, the dictionary including a directed set of concepts including a maximal element and at least one chain from the maximal element to every concept in the directed set, the basis including a subset of chains in the directed set;

a clump locator unit adapted to locate clumps of state vectors in the topological vector space;

a superpositioning unit adapted to superposition the state vectors within each clump into a single vector representing the clump; and

a collection unit adapted to collect the single vectors representing the clump into the minimal vectors of the semantic abstract.